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Docket No.: 00885/000D930-US0

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 09/155,740

Conf. No.:

Applicant : Deborah Ann Lewis, et al.

Art Unit.: 1761

Filed : February 27, 1998

Examiner: Helen F. Pratt

For : FRUIT PRODUCTS

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APPELLANT'S BRIEF

Sir:

This is appellant's brief under 37 c.f.r. §1.192 for the appeal of the final action mailed on June 26, 2003 by examiner Helen F. Pratt in the above-identified patent application.

REAL PARTY IN INTEREST

The real party in interest Byron Australia Pty. Ltd. Of New South Wales, Australia.
Rights in and to this application have been assigned to this party.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences which bear on the present appeal.

STATUS OF CLAIMS

Claims 1-19 are pending in this application, all of which stand rejected. Applicant herein appeals the rejection of claims 1-19.

STATUS OF AMENDMENTS

An amendment was requested subsequent to final rejection, but it has not been entered.

SUMMARY OF THE INVENTION

The invention defined by various claims of the subject application concerns a process for introducing solutes into dried fruit to produce soft dried fruit. Dried fruit of a moisture content between 5% and 40% or more is the starting material (page 3, line 29). According to one embodiment, the structure of the fruit is disrupted while maintaining its integrity and so as to produce cracks in the surface or edges (page 3, line 17 and page 5, lines 12-14). In another embodiment, the fruit is subjected to a mechanical or physical process which causes cracks on the surface or edges of the fruit while maintaining its essential structure and

appearance (page 3, lines 18-19 and page 5 lines 18-21). The fruit is then reacted or missed with a solute solution for a time sufficient to allow solute infusion into the fruit, complete infusion in the second embodiment (page 3, lines 10-12 and 20-22 and page 7, lines 5-21). Any remnant infusion may be removed and the fruit is dried to a desired moisture content (page 3, lines 12-13 and 22-23). In accordance with another aspect of the invention different types of fruit are rolled through a roller mill in which the gap between the rollers is in a predetermined percentage range of the average width of a fruit piece, and a specific type of fruit has a predetermined range of water activity.

ISSUES PRESENTED ON APPEAL

The sole issue presented for review is whether the Examiner erred in holding that claims 1-19 are unpatentable under 35 U.S.C. 103(a) as obvious over Reznik U.S. Patent No. 3,741,103 (“Reznik”) in view of GB 1,004,522 and GB 1,228,175 (published British patent applications) and Hsieh et al. U.S. Patent No. 4,917,910 (“Hsieh”).

GROUPING OF CLAIMS

For the purpose of the present appeal, Applicants request that claims be grouped as follows:

Group I: claim 1;

Group II: claims 2-5, 9-13, and 17;

Group III: claims 6-8, and 14-16; and

Group IV: claims 18 and 19.

ARGUMENT

This Appeal Brief is being filed in response to the Official Action mailed on June 26, 2003. Claims 1-19 are pending in this application. Applicants make the following remarks with respect to the independent claims in each of the claim groupings, unless otherwise expressly noted.

Claims 1-19 were rejected over Reznik in view of GB1004522 and GB1228175 and Hsie et al. As will be demonstrated, neither Reznik, nor any of the other references, nor any combination thereof renders the present claims obvious. All rejections should be reversed.

The record contains the declaration of Dr. David S. Reid. Dr. Reid is a Professor in the Department of Food Science and Technology at the University of California, Davis (Reid Declaration, Paragraph 1). He has been teaching scientists and engineers for 20 years and is quite familiar with the level of skill of students at the undergraduate and graduate level (Reid Declaration, Paragraph 2). After reviewing the present patent application and the cited references, Dr. Reid is of the opinion the level of skill of a person of ordinary skill in the field of

the subject matter of the patent application is that of an ordinary scientist or engineer with a bachelor's degree in food science or technology (Reid Declaration, Paragraph 3). Dr. Reid is therefore in a unique position to be able to assess how those with that level of skill would view the cited references and the present invention.

The Examiner has questioned Dr. Reid's referring to the "Byron" claims in his declaration, noting that the present inventors do not include an individual by that name. The Examiner obviously appreciates that Dr. Reid uses "Byron" to identify the claims of the present application. Byron Australia Pty. Ltd. is the name of the assignee.

The References Do Not Teach or Suggest the Claimed Invention

Reznik is concerned with a process for hydrating dates so as to produce a hydrated date which is soft and tender so that it can be consumed directly (column 1, lines 35-38). The Reznik patent's aim is not to lower the water activity of dried fruit, as in the present invention, but instead to increase the water activity by the addition of water via a re-hydration process. Dates are fissured using a fissuring roller and then vacuum impregnated with water to increase the moisture content of the dates (see column 2, lines 25-33). Fissuring of the skin enables air to be drawn rapidly out of the fruit, allowing ready vacuum impregnation with water (see column 3, lines 10-21). This occurs when air is reintroduced to the enclosure and the resulting pressure causes water to be forced into the dates in place of the air which was drawn out.

Reznik leaves no doubt that vacuum impregnation of water is key to his method (column 2, lines 25 through 33):

One phase of the invention concerns the procedure used to increase the moisture content of the dates. This involves a vacuum treatment conducted, as noted above, at ambient temperature. Another phase of the invention concerns apparatus and process for pretreatment of the dates to enable them to be effectively hydrated. Basically, this involves a fissuring of the skin of the dates.

Also, regarding Reznik, Dr. Reid observes (Reid Declaration, Paragraph 9):

To one of ordinary skill in the art, the Reznik patent describes the processing of a dried fruit by introducing cracks on the surface, but it would be understood that the purpose is to *enhance rehydration*, and provide improved eating quality by such increased moisture content. Reznik does not claim to enhance eating quality under low moisture conditions. In this way the product would be understood to be different from that of the present invention, which is intended for consumption under low-moisture conditions. The final product of the Reznik patent does not have long term stability. That characteristic is possessed by the original date. As those of ordinary skill in the art would understand, the Reznik process is intended to render the stored date more suitable for consumption, not to produce a stable final product.

In paragraph 5 of his declaration, Dr. Reid observes:

The Reznik patent describes a process, in which naturally dried dates are cracked by passage through rollers, then exposed to a vacuum to remove air prior to adding water. This pretreatment enables rapid ingress of water, and therefore rapid rehydration. The process is one for rapid rehydration of dried fruit, and results in an increase in a_w .

Thus, the Reznik patent relates to processing dried fruit for an entirely different purpose, and it achieves a different result. The examiner has offered no explanation why those skilled in the art would ever use Reznik for an undisclosed purpose. "The mere fact that the prior art may be modified in the manner suggested by the examiner does not make the modification

obvious unless the prior art suggested the desirability of the modification." *In re Fritch*, 23 U.S.P.Q. 2nd 1780, 1783 (Fed Cir. 1992).

It is noteworthy, as shown above, that the Reznik patent is entirely dependent on the use of a vacuum to draw water into the dates, which is entirely unnecessary in and teaches away from the present invention. A reference should be considered as a whole, and portions arguing against or teaching away from the claimed invention must be considered. *Bausch & Lomb, Inc. v. Barnes -Hind/Hydrocurve, Inc.*, 796 F.2d 443, 230 USPQ 416 (Fed. Cir 1986).

The Examiner has taken the position that the claims of the instant invention do not exclude the vacuum impregnation of water step of Reznik. Applicants respectfully disagree. Step (c) of claim 1 specifically refers to reacting to achieve "solute infusion into the fruit" and the remaining claims include step (d), which involves mixing to achieve "complete infusion of solute into the fruit." Infusion is a very different process from vacuum impregnation as one of ordinary skill in the art would readily understand. Infusion is a gentle process as described in the specification at page 7, lines 11-17. As set out at lines 16 and 17 on page 7 of the applicants' disclosure, dehydration of fruit may occur during the infusion process, so the infusion step of the invention is clearly different from impregnation of water, which always increases water content.

The McGraw-Hill Dictionary of Scientific and Technical Terms (fourth edition) defines "infusion" as "the aqueous solution of a soluble constituent of a substance as the result of the substances steeping in the solvent for a period of time." This is consistent with the gentle process described in the application, and clearly excludes abrupt vacuum impregnation, and it demonstrates that those skilled in the art would consider "infusion" to exclude vacuum impregnation.

Also, modifying Reznik to operate in accordance with the claims of the present application would change its principal of operation. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Thus, in the present instance, the examiner has failed to establish *prima facie* obviousness as a matter of law.

In making the obviousness rejections the examiner combines Reznik with two British patents relating to processes for the production of quick cooking pulses, particularly peas, produced from fresh mature pulses. The whole basis for the British patents is that mature pulses, particularly peas, are harder and slower to rehydrate and cook compared to peas which are harvested at an earlier stage. The British patents allow previously rejected peas to be fully utilized in the production of dried peas for use in soups, dinner side dishes, and the like.

According to the British patents, pulses, particularly peas, of high maturity are impregnated with a solution of hydrophilic material and are subsequently subjected to a drying operation (see for example GB 1004522 at page 1 lines 23-31 and claim 1). In one aspect of the disclosures, the fresh peas are perforated using pricking means (see Example 2 of GB 1004522).

Applicant believes that the Examiner has confused the raw material, i.e. the fresh pulses, of the British patents with a dried produce (like dried fruit of the present invention). Fresh peas comprise about 78% moisture. The products of the British patents require re-hydration and cooking to be edible (see Example 1 of GB 1004522 at lines 32-46).

With respect to the British (Unilever) patents, Dr. Reid observed (Reid Declaration, Paragraph 7):

To those of ordinary skill in the art, the Unilever patents describe a dehydration process, which aims to increase the rate of rehydration. They would understand that the purpose of the skin rupture is to enhance moisture removal and that the purpose of the added humectant is to enhance the rate of rehydration. They would appreciate that the patent is not concerned with the properties of the dried product, only with the rapidity of drying, the rapidity of rehydration, the production of acceptable consumer properties for the rehydrated product.

There can therefore be no doubt that the British patents, too, are addressed to a different problem than the present invention and would not be looked to by those skilled in the art when considering the problem addressed by the present invention. This is supported by the above sworn testimony of a practitioner with over 20 years of skill in the field, while the examiner's use of the references and attribution of relevance thereto is based upon a mere bald assertion without the slightest support therefor in the record.

The Hsieh patent is directed to a processes for infusing high levels of humectants, such as glycerol, into dried fruits, particularly raisins. In the Hsieh process dried fruit is tumbled with high concentrations of glycerol so as to coat the surface of the raisins (see Example 1 at column 9). The dried fruit and humectant, particularly glycerol, are left to stand until the liquid humectant has infused into the dried fruit.

Dr. Reid has the following observation with respect to Hsieh (Reid Declaration, Paragraph 10):

The product of the Hsieh process would be understood by those of ordinary skill in the art to be similar to that of the [preset invention], in that it is a moist, succulent dried fruit of lowered a_w , containing added humectant which provide moistness and tenderness without increasing the a_w to a level where microbiological stability is compromised. The [present invention] would be understood to differ, in that it describes a process in

which the rate of incorporation of the humectant is greatly enhanced.

So, this is one instance in which the results of the present invention were sought, yet the unique steps of the claims were overlooked, and the advantages of the present invention were not gained. These facts hardly support a conclusion of obviousness.

Again, the examiner has substituted her own, unsupported judgment for the sworn testimony of an expert. It is respectfully submitted that the examiner must treat the sworn testimony of an expert as evidence and must give it due consideration, particularly when there is no contrary evidence in the record.

Those Skilled in the Art Would Not Combine the References

We will now consider the various combinations suggested by the examiner. As explained, the combination of references put forward by the Examiner would not be made by a person of ordinary skill in the art, and further teaches away from the invention as claimed.

Combination of Reznik with British Patents

Whereas Reznik describes an apparatus for hydrating dates, the British patents dehydrate fresh pulses, i.e. fresh peas. Again, the technical field is completely different and the processes are different. The fissuring of the skin of dates followed by vacuum hydration forcing water into the dates, is a process which is completely opposite to dehydrating (i.e. is *removing* water) from fresh peas as in the British patents. A vacuum impregnation of water to dehydrate fruit, particularly dates, is a completely nonsensical combination with processes for producing dried peas according to the British patents.

Combination of Reznik with Hsieh

Whereas Reznik *increases* the water activity of dried dates via a vacuum rehydration process, Hsieh *lowers* the water activity of dried raisins by infusing into the raisins a liquid humectant, particularly glycerol. Whereas Reznik vacuum impels water into dates, Hsieh simply tumbles dried raisins with the humectant glycerol. In combining these references, a person skilled in the art would not know whether to use water or glycerol, or how the vacuum impelling step of Reznik could be combined with the gentle tumbling of raisins in glycerol according to Hsieh. In any event, the combination of these references does not suggest the presently claimed invention.

Dr. Reid's observation as to combining the references should come as no surprise

(Reid Declaration, Paragraph 11):

While combining parts of the ... other patents can duplicate the methods of increasing the rate of incorporation of the humectant, the purpose of these partial processes within the other patents would be understood by those of ordinary skill in the art to differ significantly from the purpose in the [present invention]. I do not believe that a person of ordinary skill in the field would find the claims of the Byron process obvious from reading the teachings of the Steinwand, Reznik and Unilever patents.

The Hsieh patent describes a time-consuming process. The teachings of the Byron claim, which result in a rapid process, would be considered unobvious by one of ordinary skill in the field.

It is observed that the Examiner's entire approach to making the obviousness rejections in the present instance is improper. The Examiner has improperly combined

disclosures from a substantial number of references to make the present rejections. All rejections are based on the combination of four references. Basically, the examiner has looked at the disclosure of the application and has arbitrarily selected features from the cited references to make the rejection (however, as shown above, even the improbable combination suggested by the examiner still does not teach or suggest the invention). Apparently, the examiner has overlooked the requirement that for references to be combined, "there must be some reason, suggestion or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from the applicants' invention itself." *In Re Oetiker*, 24 U.S.P.Q. 2d 1443 (Fed. Cir. 1992). It is error to reconstruct the patentee's claimed invention from prior art by using the patentee's claim as a "blueprint" when prior art references require selective combination to render obvious a subsequent invention. There must be some reason for the combination other than the hindsight obtained from the invention itself. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132 (Fed. Cir. 1985).

Indeed, the only disclosure for any of the combinations made by the examiner is the present patent application itself. As stated by the CAFC in *Re Fritch*, 23 USPQ 2d. 1780 (Fed. Cir. 1992):

[I]t is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious... This court has previously stated that "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

The CAFC has also stated that:

As in all determinations under 35 U.S.C. §103, the decision maker must bring judgment to bear. It is impermissible, however, simply

to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps. *In Re Gorman*, 18 USPQ 2d. 1885 (Fed. Cir. 1991).

The examiner's hindsight approach is evidenced by the fact that she has arbitrarily combined the references without even alluding to the slightest suggestion in any of them that such combination should be made or that it would be of any benefit. It might very well be asked how the present invention could be considered obvious when there are substantial benefits derived from it and none of the references even suggests it. "We do not pick or choose among the individual elements of assorted prior art references to recreate the claimed invention, but rather, we look for some teaching or suggestion in the references to support their use in the particular claimed combination." *Symbol Technologies, Inc. v. Option, Inc.*, 19 USPQ 2d. 1241 (Fed. Cir. 1991). It is by now well settled that obviousness cannot be established by combining the teachings of prior art references to produce a claimed invention, absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Mortifier Hospital*, 221 USPQ 929 (Fed. Cir. 1984).

In view of the foregoing, it is believed that such obviousness rejection based upon the examiner's improbable combinations of references is improper and must be reversed.

Group I: Claim 1

In addition to the reasons for reversal already stated, claim 1 includes the step of (step b)) disrupting the structure of the fruit by a mechanical or physical process producing

cracks on the surface and/or edges of the fruit whilst maintaining integrity thereof. There is no teaching or suggestion of such a step in any of the references.

Group II: Claims 2-5, 9-13 and 17

Group II is patentable for the reasons already stated.

Group III: Claims 6-8, and 14-16

The claims in Group III define a preferred relationship between the size of the fruit and the spacing between the rollers used to disrupt the structure of the fruit. This is believed to lend independent patentability to these claims.

Group IV: Claims 18 and 19

The claims in this group define a preferred water activity for the fruit. The examiner has taken the position that the claims do not require any particular moisture conditions. These claims do.

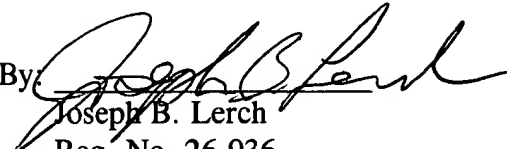
The Reid declaration, constitutes meaningful evidence in the record (the only evidence) regarding how the cited art would be understood and interpreted with respect to the present invention by those of ordinary skill in the art. The allegations of the examiner and the undersigned notwithstanding, it is ultimately the level of skill of the ordinary practitioner which must control .

CONCLUSION

For all of the reasons set forth above the rejections of claims 1-19 should be reversed.

Respectfully submitted,

Dated: June 24, 2004

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APPENDIX

Claims on Appeal

1. (Previously presented) A process for introducing solutes into dried fruit for the production of soft dried fruit which comprises:
 - (a) Providing dried fruit of a moisture content between 5 to 40% or more;
 - (b) disrupting the structure of the fruit by a mechanical or physical process producing cracks on the surface and/or edges of the fruit whilst maintaining integrity thereof;
 - (c) reacting the fruit with a solute solution containing one or more water activity controlling solutes for a time sufficient to allow solute infusion into the fruit, optionally removing, if necessary, any remnant infusion liquid and thereafter drying the fruit to a desired moisture content and water activity, and optionally,
 - (d) treating the surface of the fruit with one or more sugars.

2. (Previously presented) A process for introducing solutes into dried fruit for the production of soft dried fruit which comprises:
 - (a) providing dried fruit of a moisture content between 5% to 40% or more;
 - (b) subjecting the dried fruit to a mechanical or physical process which causes cracks in the surface and/or edges of the fruit
 - (c) whilst maintaining the essential structure and appearance of the fruit;
 - (d) mixing the fruit with a solute solution containing one or more water activity controlling solutes for a time sufficient to allow complete infusion of solute into the fruit;

- (e) removing, if necessary, any remnant infusion liquid and thereafter drying the fruit product to a desired moisture content and water activity; and optionally,
 - (f) treating the surface of the fruit with one or more sugars.
3. (Previously presented) A process according to claim 2 wherein step (b) is provided by passing the fruit through a roller mill, by explosion puffing or toasting.
4. (Previously presented) A process according to claim 3 wherein the fruit is rolled such that the uptake of solute is between about 1.3 to about 1.9 fold greater than that of unrolled fruit.
5. (Previously presented) A process according to claim 4 wherein the fruit is a fruit piece having dimensions from about 2x2x2 mm to about 60x30x10 mm.
6. (Previously presented) A process according to claim 4 wherein the fruit is an apple piece which is rolled through a roller mill having a roller gap width from 5% to 20% of the average apple piece width.
7. (Previously presented) A process according to claim 1 wherein the fruit is a pear piece which is rolled through a roller of roller gap width equal to 35% to 45% of the piece width.
8. (Previously presented) A process according to claim 1 wherein the fruit is a raisin which is rolled through a roller of roller gap width equal to 35% to 45% of the raisin width.

9. (Previously presented) A process according to claim 2 wherein a water activity-controlled fruit product is produced within about thirty minutes to about four hours.
10. (Previously presented) A process according to claim 1 wherein step (b) is provided by passing the fruit through a roller mill, by explosion puffing or toasting.
11. (Previously presented) A process according to claim 3 wherein the fruit is a fruit piece having dimensions from about 2x2x2 mm to about 60x30x10 mm.
12. (Previously presented) A process according to claim 2 wherein the fruit is a fruit piece having dimensions from about 2x2x2 mm to about 60x30x10 mm.
13. (Previously presented) A process according to claim 1 wherein the fruit is a fruit piece having dimensions from about 2x2x2 mm to about 60x30x10 mm.
14. (Previously presented) A process according to claim 3 wherein the fruit is an apple piece which is rolled through a roller mill having a roller gap width from 5% to 20% of the average apple piece width.
15. (Previously presented) A process according to claim 2 wherein the fruit is an apple piece which is rolled through a roller mill having a roller gap width from 5% to 20% of the average apple piece width.
16. (Previously presented) A process according to claim 1 wherein the fruit is an apple piece which is rolled through a roller mill having a roller gap width from 5% to 20% of the average apple piece width.

17. (Previously presented) A process according to claim 1 wherein a water activity-controlled fruit product is produced within about thirty minutes to about four hours.
18. (Previously presented) A process according to claim 1 wherein the fruit has a water activity (A_w) between 0.2 and 0.65.
19. (Previously presented) A process according to claim 2 wherein the fruit has a water activity (A_w) between 0.2 and 0.65.